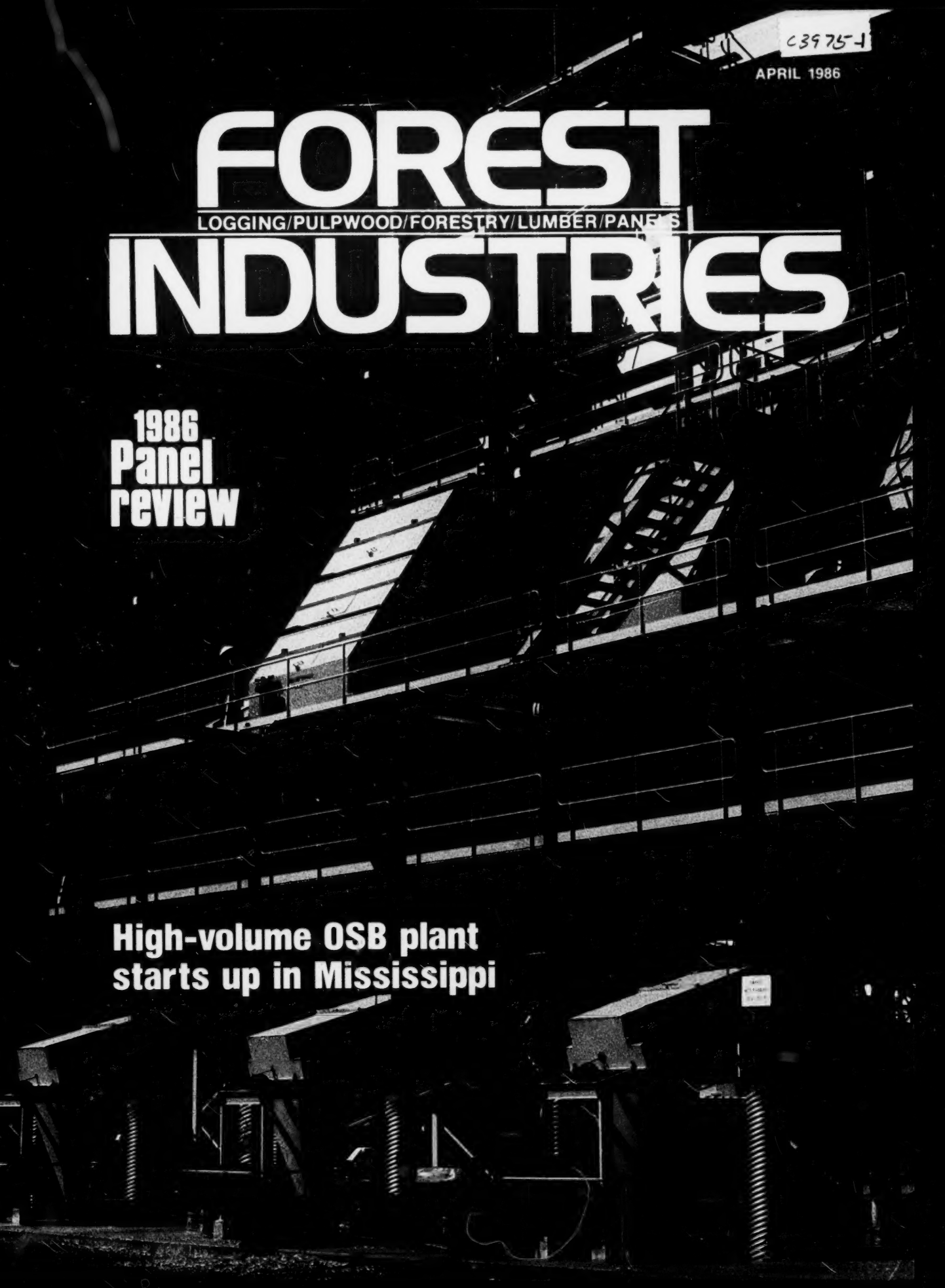
C3975-1

APRIL 1986

FOREST INDUSTRIES

LOGGING/PULPWOOD/FORESTRY/LUMBER/PANELS

1986 Panel review



High-volume OSB plant starts up in Mississippi

1986 Volume 113 Number 4

APRIL

Panel Review

16
Panel output, capacity continues to increase
Our annual panel review shows that structural panel and MDF production set more records while particleboard continues to climb. Prices fail to pace demand, but capacity keeps growing

18
1986 Directory of North American panel plants
FOREST INDUSTRIES editors have brought back the annual directory of panel plants in North America. The directory breaks the industry down by product and lists leading producers

25
High-volume OSB operations boosts company's position
New mill in Grenada, Miss., puts Georgia-Pacific a step closer to announced corporate goals

28
Continuous press line produces particleboard
North America's first example of the Bison Hydro-Dyn continuous press is producing particleboard at the Flake Board Co. Ltd. in St. Stephen, N.B.

Woods

37
Log merchandising in woods: a concept
Consultant views it as cost-effective for foresters to merchandise logs in the woods by calculating optimum lengths

42
How harvest methods can aid new growth
From CPPA Woodlands Section annual meeting: techniques to help regeneration, improve utilization and make chips suitable for pulping

Industry

38
Stronger demand foreseen for Canadian forest goods
During the next three years, Canada's forest industry should continue to recover from the depression, according to consultants' analysis

Mills

40
'Making coffee is about all we don't do by computer'
Les Johnson, a mill owner in Bude, Mississippi, developed his own computer programs for analyzing various aspects of his business

Departments

7
For the Record

49
Computing for Profit

50
Making Equipment Pay

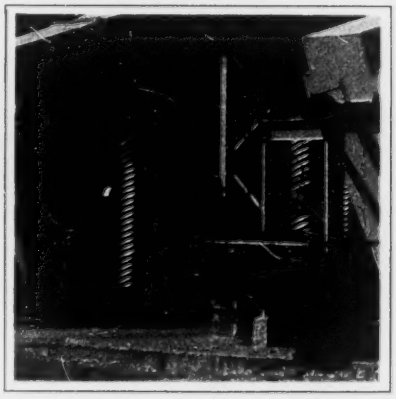
57
Equipment

60
Books, Bulietins

62
Machinery Row

63
Newsmakers

64
Meetings



Cover story, page 25

Structural panel and MDF production set more records while particleboard maintains a steady climb. Prices fail to pace demand, but capacity continues to grow

Panel output, capacity continues to increase

San Francisco, California _ The dichotomous relationship between product prices and demand continued to plague the domestic wood-based panel industry in 1985. Discussion of overcapacity and depressed prices aside, most product segments responded to the marketplace with production above 1984 levels. Structural panel and medium-density fiberboard (MDF) producers set new records in the process.

It takes a while for all the production data to filter through the various statistics-gathering systems, so in some cases we're still dealing with estimates.

These are from expert estimators, however, like the economists at American Plywood Assn. who have projected 23 billion ft² (⅜-in. basis) for U.S. structural panel production.

(See sidebar for Canadian figures, also up from 1984.)

This is a 4.7% gain over the year before, when production totaled a shade under 22 billion ft². Structural panel production has increased annually since the housing collapse forced output to a low point in the 1980-82 period.

MDF production also has set a new record every year since a latter-day low point in 1982. The National Particleboard Assn. has estimated 1985 output at a record 700 million ft² (¾-in. basis), an increase of 10.2% over 1984 production of just under 635 million ft².

Particleboard production last year gained 3.3% on 1984, with the NPA estimating 3.3 billion ft² (¾-in. basis). The record year was 1978 with 3.7 billion ft².

Hardboard production declined 7.8% to 6.3 billion ft² (⅛-in. basis) last year. Output, which has traced peaks and valleys over the last decade, has declined since a 7.3 billion ft² spike on the chart in 1983.

Structural panels

At APA, the ink would hardly become dry on one estimate of 1985 structural panel production before an upward revision would be necessary. Earlier this year, a forecast of 22.6 billion ft² was adjusted to 22.7 billion ft² before being discarded in favor of the current 23 billion ft² projection, as more precincts were heard from.

Total structural panel capacity in the U.S. last year was 28.4 billion ft² from 168 mills, according to APA figures. That figure should rise to 30.8 billion ft² by 1990. Waferboard/OSB represented 9% of the total capacity figure last year, or 2.6 billion ft². This leaves the softwood plywood industry with a capacity figure of 25.8 billion ft².

In 1990, the share of total structural panel capacity assigned to waferboard/OSB is projected at 14% as the number of U.S. mills rises to 35 from 22 in 1985. This works out to waferboard/OSB capacity of 4.3 billion ft² and softwood plywood capacity of 26.5 billion ft².

Softwood plywood prices have failed to respond to market improvement. The composite price calculated by *Random Lengths* dipped sharply to about $185 late in the first quarter of 1985 before rebounding to spend most of the summer in the $215-220 range. It then slid to a point just above $200 at year end and remained flat thereafter.

Fourth-quarter prices as indicated by the composite tracked 1984 closely until the first of December, when the 1984 index leveled off at about $210.

In the second quarter, prices last year were much higher than 1984 levels, a situation which was reversed in the third quarter.

U.S. Panel Production, 1975-1985

(thousand ft²)

Year	Structural panels (⅜-in. basis)	Particleboard (¾-in. basis)	Hardboard (⅛-in. basis)	MDF (¾-in. basis)	Hardwood plywood (surface measure)
1975	16,050,180	2,538,934	6,237,906	215,496	1,279,592
1976	18,440,000	3,202,225	7,066,022	280,036	1,463,135
1977	19,376,000	3,592,910	7,200,000	441,354	1,478,000
1978	19,964,000	3,720,369	7,800,000	508,416	1,480,571
1979	19,653,000	3,376,488	7,687,798	506,728	1,434,521
1980	16,468,000	2,949,897	6,140,000	493,140	1,312,000
1981	17,023,000	2,869,352	6,104,000	516,102	1,270,220
1982	16,402,554	2,393,066	5,586,918	446,157	1,162,600
1983	20,821,342	2,919,544	7,302,702	605,098	1,162,629
1984	21,967,917	3,195,586	6,837,118	634,974	1,264,889
1985	22,838,170	3,300,000 (est.)	6,300,146	700,000 (est.)	N.R.

N.R.= Not Reported.

APA looks for continued stable demand in U.S. structural panel markets through 1987 despite an expected softening of housing starts. From the 1985 level of 1.73 million conventional units, APA projects starts at 1.7 million this year and 1.55 million in 1987, when mortgage interest rates are likely to swing upward once again.

Modest consumption improvements are foreseen for repair, non-residential construction, industrial and export markets. Coordinated wood industry promotion efforts are focusing on non-residential construction as the category most likely to produce a significant wood consumption increase.

Particleboard and MDF

Landmarks were established by the particleboard and MDF industry last year in three areas, according to NPA general manager Rich Margosian: formaldehyde emission regulations, value-added products and increased production capacity.

The industry geared up to meet a new federal regulation on formaldehyde emissions as U.S. Department of Housing and Urban Development regulation 24CFR3280 went into effect Feb. 11, 1985, establishing a maximum emission level for particleboard and hardwood plywood used in manufactured housing construction.

By the end of 1985, over 80% of all particleboard produced in the U.S. met the HUD level of 0.3 ppm. In January 1986, the NPA adopted a voluntary industry standard for particleboard, NPA 8-86, which accepts the emission levels and testing protocol of the HUD rule and provides for a choice of third-party or mill certification.

Companies representing 92% of U.S. particleboard capacity okayed the standard, which can be applied to all particleboard products.

Other state and federal agencies are studying the formaldehyde issue.

Minnesota passed a state law in 1985 regulating all panel products used in construction, and applies the HUD particleboard standard and testing protocol to MDF as well.

OSHA has published a proposed standard that will reduce workplace formaldehyde exposure from the currently approved levels.

The Consumer Product Safety Commission and Environmental Protection Agency are investigating pressed-wood products and proposed regulations are expected by mid-1986. The NPA and industry are working actively with these agencies, Margosian said.

Producers are upgrading products, aiming toward high-end industrial markets, Margosian said. Lightweight paper laminates and increasing use of thin vinyls and water-base laminating adhesives have created a demand for finer-textured surfaces.

Particleboard makers are adding refiner capacity and improving forming machines in an effort to narrow the difference between that product and medium-density fiberboard.

As for capacity increases, the MDF industry added or announced over 250 million ft^2 (¾-in. basis) in 1985. This includes new Louisiana-Pacific Corp. facilities in Oroville, Calif., and Newberry, Mich., and plants announced for New Waverly, Texas, and Urania, La. MDF Technology Inc. has purchased and rebuilt the old Celotex plant in Deposit, N.Y., and had planned to begin production in March 1986.

Weyerhaeuser Co. has announced plans to build a new 90 million ft^2/yr particleboard plant next to its Moncure, N.C., MDF facility. It will feature a 9 x 24-ft press and produce 100% industrial-quality board.

Industry capacity for MDF will approach 1.1 billion ft^2 by the end of 1986, Margosian said, close to 30% of the 3.8 billion ft^2 particleboard capacity.

Supplies of particleboard and MDF should be adequate for the short term, but pressure on the supply of wood residues could inhibit industry expansion in the future.

Margosian also cited possible raw material problem areas such as competition for residues from pulp mills and wood-fueled boilers, and reduced residues from U.S. sawmills cutting production in the face of Canadian softwood lumber imports. Higher panel prices could result. ■

Canadian panel industry scores gains

VANCOUVER, B.C.—Wood-based panel production in Canada for the most part responded positively to an improved economy last year.

Statistics Canada reported softwood plywood production at 1,957,887 m^3, up 6% from a 1984 figure of 1,846,369 m^3.

Waferboard and OSB production increased 12.3% to 1,336,566 m^3 last year from a 1984 level of 1,190,254 m^3.

Particleboard bounded to 1,047,500 m^3, up 24.2% from the 1984 figure of 843,346 m^3.

Hardboard production for 1985 was reported at 155,929 m^3, vs. 160,855 m^3 the year before, a 3% decline.

Last year's waferboard and OSB production, while well above the year before, represented a moderation of the growth rate which saw a jump between 1983 and 1982 of 75% as capacity mushroomed.

British Columbia is the source of most Canadian softwood plywood. According to the Council of Forest Industries of B.C., mills in that province produced 1.855 billion ft^2 (⅜-in. basis) last year, up nearly 6% from 1984.

Strong Canadian demand accounted for most of the increased production and helped bolster depressed prices. Export shipments were maintained at or above 1984 levels, with significant increases to the United Kingdom balancing slightly reduced volumes to other export markets. The U.K. is Canada's principal overseas plywood market.

The closure of a major coastal mill in 1985 reduced the industry's production capacity slightly. It was partially offset by the opening of a new mill in the Northern Interior and capacity gains achieved elsewhere through improved processing technology.

"The predicted market loss and price pressure because of waferboard competition has not materialized to any great extent," observed Art W. Kempthorne, COFI plywood sector manager.

COFI Exterior Canadian Softwood Plywood has been approved for engineering applications by the technical committee responsible for the Canadian Timber Engineering Code, joining Exterior Douglas Fir Plywood.

"The use of preserved wood foundations is steadily increasing in Canada and demand for PWF construction plywood is growing at a very satisfactory rate," Kempthorne added.

In Germany, COFI is now authorized to certify Canadian plywood to full DIN Standard requirements—this is seen as a breakthrough, as special licenses previously limited wood use in construction to prefabricated applications.

Plywood code acceptances have also been expanded in Sweden and Denmark. The concrete form market for Canadian plywood is improving in Italy, while China remains a major focus of market expansion activities.

Canadian housing starts in 1984 totaled 64,686 units. Quarterly through 1985, the seasonally-adjusted annual rate tracked at 63,000, 69,000, 87,000 and 93,000 units. ■

1986 Directory of Panel Plants

A LONG-STANDING TRADITION has been restored this year: We have brought back the FOREST INDUSTRIES Directory of Panel Plants, historically part of our annual Panel Review.

To obtain current data, we mailed questionnaires last fall to all the panel plants in North America we could track down. We then sent follow-up questionnaires to non-respondents and, when necessary, contacted companies by telephone.

The following directory breaks down the panel industry by product. Each section lists producers by company name, location of headquarters, mill locations, production capacities, and estimated 1985 production. In some cases where companies did not provide information about mill capacities, we relied on news clippings, corporate annual reports or the *1986 Directory of the Forest Products Industry*, published late last year by Miller Freeman Publications.

We have tried to make the directory as accurate and complete as possible. We invite readers to inform us of any errors or omissions.

Finally, we would like to acknowledge the contribution of editorial assistant Corinne Shulman, who was responsible for gathering, verifying, organizing and presenting all the data in this directory.

SOFTWOOD PLYWOOD — U.S.

Company & Plants	Capacity*	1985 Est. Prod.
Anacortes Plywood Inc., Anacortes, Wash.	130	72
Astoria Plywood Corp., Astoria, Ore.	110	N.R.
Bald-Knob Cress-Ply, Creswell, Ore.	N.R.	N.R.
Bingen Plywood Co., Sub. of SDS Lumber Co., Bingen, Wash.	72	N.R.
Bohemia Inc., Eugene, Ore.		
Culp Creek Div., Culp Creek, Ore.	96	96
Drain Div., Drain, Ore.	105	75
Vaughn Div., Vaughn, Ore.	115	96
Boise Cascade Corp., Boise, Idaho		
Emmett, Idaho	157.5	124.7
Florien, La.	190	223
Oakdale, La.	189.8	158
Moncure, N.C.	87	91
Elgin, Ore.	150	140
Medford, Ore.	262.5	322.1
White City, Ore.	105	118.8
Chester, S.C.	165	165
Kettle Falls, Wash.	157.5	160.3
Yakima, Wash.	150	120.7
Brand-S Corp., Corvallis, Ore.		
Corvallis, Ore.	125	124
Natron Div., Springfield, Ore.	104.5	N.R.
Centralia Plywood & Veneer Co., Div. of Winlock Veneer Co., Centralia, Wash.	N.R.	N.R.
Champion Intl. Corp., Stamford, Conn.		
Cordova, Ala.	N.R.	N.R.
Waycross, Ga.	82.5	N.R.
Holden, La.	N.R.	N.R.
Bonner, Mont.	319	N.R.
Libby, Mont.	85	85
Roseburg, Ore.	170	N.R.
Silverstreet, S.C.	229	229
Camden, Texas	300	293.3
Corrigan, Texas	240	228.7
Chemclad Corp., Auburndale, Fla.	N.R.	N.R.
Chesapeake Corp., West Point, Va.		
Cheapeake Plywood, Pocomoke City, Md.	72	60
Coastal Lumber Co., Weldon, N.C.		
Havana, Fla.	130	133.4
Crown Zellerbach, San Francisco, Calif.		
Omak, Wash.	185	177
DAW Forest Products, Lake Oswego, Ore.		
Redmond, Ore.	170	163
Diamond Lands Corp., Red Bluff, Calif.	78	78
Forestply Industries Inc., Kincheloe, Mich.	50	25
Fort Vancouver Plywood, Vancouver, Wash.	120	120
Fourply Inc., Grants Pass, Ore.	150	127.5
Georgia Kraft Co., Rome, Ga.		
Woodkraft Div., Madison, Ga.	280	280
Georgia-Pacific Corp., Atlanta, Ga.		
Monroeville, Ala.	240	N.R.
Talladega, Ala.	228	N.R.
Crossett, Ark.	450	N.R.
Fordyce, Ark.	255	N.R.
Hawthorne, Fla.	240	N.R.
Montecello, Ga.	280	N.R.
Warm Springs, Ga.	264	N.R.
Gloster, Miss.	240	N.R.
Louisville, Miss.	235	N.R.
Taylorsville, Miss.	260	N.R.
Dudley, N.C.	185	185
Whiteville, N.C.	240	N.R.
Coquille, Ore.	180	N.R.
Springfield, Ore.	160	N.R.
Prosperity, S.C.	155	N.R.
Emporia, Va.	240	N.R.
Great Southern Plywood Co., Cedar Springs, Ga.	150	155
Gregory Forest Products Inc., Glendale, Ore.	192	192
Hardel Mutual Plywood, Olympia, Wash.	140	135
Hood Industries Inc., Beaumont, Miss.	100	109.7
Wiggins, Miss.	175	135
Hoquiam Plywood Co. Inc., Hoquiam, Wash.	96	81
International Paper Co., New York, N.Y.		
Gurdon, Ark.	200	N.R.
Springhill, La.	180	N.R.
ITT Rayonier Inc., Stamford, Conn.		
Peninsula Plywood, Port Angeles, Wash.	80	N.R.
Kirby Forest Industries Inc., Houston, Texas		
Bon Wier, Texas	250	250
Cleveland, Texas	248	248
Silsbee, Texas	169	169
Louisiana-Pacific Corp., Portland, Ore.		
Logansport, La.	150	N.R.
Urania, La.	200	N.R.
Lufkin, Texas	140	N.R.
New Waverly, Texas	200	N.R.
Kogap Manufacturing Co., Medford, Ore.	250	235
Lane Plywood Inc., Eugene, Ore.	150	150
Lang Plywood Co., White City, Ore.	100	80
Lea Lumber & Plywood Co., Windsor, N.C.	2.5	N.R.
Leading Plywood Co., Corvallis, Ore.	115	N.R.
Linnton Plywood Assn., Portland, Ore.	100	98
MacMillan Bloedel Inc., Vancouver, B.C.**		
Pine Hill, Ala.	N.R.	N.R.
Alberni Plywood Div., Port Alberni, B.C.	183	N.R.
Manville Forest Products, New York, N.Y.		
Huttig, Ark.	100	90
Manville Plywood, Joyce, La.	200	183

N.R. = Not Reported.

**Million sq ft, basis as follows: structural panels, ⅜-in.; hardwood plywood, surface measure; particleboard, ¾-in.; hardboard, ⅛-in.; MDF, ¾-in.; and insulation board, ½-in.*

***Duplicate listings are included for companies which have mills both in the U.S. and Canada producing a given panel product.*

Company & Plants	Capacity*	1985 Est. Prod.
Medford Corp., Medford, Ore.	212	208
Southern Oregon Plywood, Grants Pass, Ore.	108	120
Miller Redwood Co., Sub. of Stimson Lumber Co., Merlin, Ore.	100	75
Mt. Baker Plywood Inc., Bellingham, Wash.	67.5	62
Multnomah Plywood Corp., St. Helens, Ore.	150	N.R.
North Pacific Plywood Co., Graham, Wash.	85	84
Tacoma, Wash.	84	84
North Santiam Plywood Co., Mill City, Ore.	168	174
Owens-Illinois Inc., Toledo, Ohio		
Jasper, Texas	146	147.2
Plum Creek Timber Co. Inc., Seattle, Wash.		
Columbia Falls, Mont.	115	110
Kalispell, Mont.	115	100
Pleasant Valley Plywood, Sweet Home, Ore.	65	60
Potlatch Corp., San Francisco, Calif.		
Lewiston, Idaho	150	N.R.
Pierce, Idaho	147	144
Saint Maries, Idaho	176	160
Premier Plywood Corp., Westfir, Ore.	84	N.R.
Puget Sound Plywood Inc., Tacoma, Wash.	80	N.R.
Roseburg Lumber Co., Roseburg, Ore.		
Coquille, Ore.	180	180
Mills 1 & 2, Dillard, Ore.	380	380
Riddle, Ore.	350	350
Roseburg, Ore.	150	150
Scotch Plywood Co. of Alabama, Fulton, Ala.	N.R.	N.R.
Simpson Timber Co., Seattle, Wash.		
Albany, Ore.	72	N.R.
Shelton, Wash.	N.R.	N.R.
South Coast Lumber Co., Brookings, Ore.	135	130.7
Southwest Forest Industries, Phoenix, Ariz.		
Albany, Ore.	180	N.R.
Grants Pass, Ore.	120	N.R.
Stevenson Co-Ply Inc., Stevenson, Wash.	100	100
Sun Plywood Inc., Roseburg, Ore.		
North Bend, Ore.	150	N.R.
Textured Forest Products, Washougal, Wash.	3	2.5
Timber Products Co., Medford, Ore.		
Tim-Ply Co., Grants Pass, Ore.	100	96
Temple-Eastex Inc., Diboll, Texas		
Pineland, Texas	166	164
Union Camp Corp., Wayne, N.J.		
Chapman, Ala.	170	150
White City Plywood Co., Springfield, Ore.		
White City, Ore.	57	N.R.
Warm Springs Forest Products Industries,		
Warm Springs, Ore.	80	80
Weyerhaeuser Co., Tacoma, Wash.		
Millport, Ala.	N.R.	N.R.
Dierks, Ark.	120	N.R.
Mountain Pine, Ark.	120	N.R.
Philadelphia, Miss.	N.R.	N.R.
Jacksonville, N.C.	158	N.R.
Plymouth, N.C.	100	110
Wright City, Okla.	120	92
Snoqualmie Falls, Wash.	95	N.R.
Willamette Industries Inc., Portland, Ore.		
Emerson, Ark.	147	N.R.
Dodson, La.	147	N.R.
Santiam Southern Plywood, Ruston, La.	85.8	N.R.
Taylor, La.	147	N.R.
Zwolle, La.	147	N.R.
Dallas, Ore.	155.1	N.R.
Foster, Ore.	139	N.R.
Lebanon, Ore.	131.6	N.R.
Springfield, Ore.	112.8	N.R.
Foster Plywood Sweet Home, Ore.	155.1	N.R.
Sweet Home, Ore.	131.6	N.R.

SOFTWOOD PLYWOOD — CANADA

Balco Industries Ltd., Kamloops, B.C.	115	115
British Columbia Forest Products Ltd.,		
Vancouver, B.C.		
New Westminster, B.C.	90	64
Canfor Ltd., New Westminster, B.C.		
Canadian Forest Products Ltd., Grand		
Prairie, Alta.	70	70
Canadian Forest Products Ltd., New		
Westminster, B.C.	370	N.R.
Cantree Plywood Corp., Div. of Alpa Lumber		
Inc., New Westminster, B.C.	90	N.R.
Crestbrook Forest Industries Ltd.,		
Cranbrook, B.C.		
Fort MacLeod, Alta.	50	50
Crown Forest Industries, Vancouver, B.C.		
Armstrong, B.C.	160	160
Fraser Mills, Coquitlam, B.C.	40	40
Kelowna, B.C.	85	85
Evans Products Co. Ltd., Kamloops, B.C.		
Golden, B.C.	130	132
Savona, B.C.	50	50
Federated Cooperatives, Canoe, B.C.	72	67
MacMillan Bloedel, Vancouver, B.C.**		
Pine Hill, Ala.	N.R.	N.R.
Alberni Plywood Div., Port Alberni, B.C.	183	N.R.
Richmond Plywood Corp., Richmond,		
B.C.	165	N.R.
Saskatchewan Forest Products, Prince		
Albert, Sask.		
Hudson Bay, Sask.	81.5	81
Weldwood of Canada Ltd., Vancouver, B.C.		
Quesnel, B.C.	N.R.	N.R.
Williams Lake, B.C.	150	N.R.
Zeidler Forest Industries, Edmonton,		
Alta.	124	116.3

HARDWOOD PLYWOOD — U.S.

Abbeville Plywood Inc., Marietta, Ga.	N.R.	N.R.
Allegheny Lumber & Panel, Elkins, W. Va.	3	N.R.
Architectural Plywood, N. Hollywood, Calif.	N.R.	N.R.
Atlantic Veneer Corp., Beaufort, N.C.	3	N.R.
Benson Veneer Inc., Benson, N.C.	2	N.R.
Birchwood Lumber & Veneer Co.,		
Birchwood, Wis.	7.5	N.R.
Birchwood Manufacturing, Rice Lake, Wis.	N.R.	N.R.
Bradford Veneer & Panel, Bradford, Vt.	10	N.R.
Bradley Plywood Corp., Savannah, Ga.	N.R.	N.R.
Bruce Hardwood Floors, Center, Texas	30	N.R.
Buffalo Veneer & Plywood, Buffalo, Minn.	3	N.R.
Buffelen Woodworking Co., Tacoma, Wash.	29.9	23
Calypso Plywood Co. Inc., Calypso, N.C.	12	N.R.

N.R. = Not Reported.

**Million sq ft, basis as follows: structural panels, ⅜-in.; hardwood plywood, surface measure; particleboard, ¾-in.; hardboard, ⅛-in.; MDF, ¾-in.; and insulation board, ½-in.*

***Duplicate listings are included for companies which have mills both in the U.S. and Canada producing a given panel product.*

HARDWOOD PLYWOOD — U.S. (CONTINUED)

Company & Plants	Capacity*	1985 Est. Prod.
Capital Veneer Works Inc., Montgomery, Ala.	10	N.R.
Carolina Panel Co. Inc., Lexington, N.C.	3	1.6
Carolina Plywood Co. Inc., Apex, N.C.	N.R.	N.R.
Center Plywood Co. Inc., Center, Texas	N.R.	N.R.
Chowan Veneer Co. Inc., Edenton, N.C.	3	N.R.
Columbia Carolina Corp., Sub. of Columbia Forest Products, Old Fort, N.C.	32	N.R.
Columbia Panel Manufacturing Co., Thomasville, N.C.	N.R.	N.R.
Columbia Plywood Corp., Sub. of Columbia Forest Products, Portland, Ore.		
Klamath Falls, Ore.	130	128
Cumberland Forest Products, London, Ky.	N.R.	N.R.
Danville Plywood Corp., Danville, Va.	N.R.	N.R.
Darlington Veneer Co. Inc., Darlington, S.C.	24	24
Davidson Plyforms Inc., Grand Rapids, Mich.	36.4	N.R.
Day Plywood Inc., Memphis, Tenn.		
Cuthbert, Ga.	75	N.R.
Denny Plywood Co., Roseboro, N.C.	2	N.R.
Dillon Veneer & Plywood, Dillon, S.C.	5	4.5
Dodge Veneers Inc., Grand Rapids, Mich.	N.R.	N.R.
Drexel Heritage Furnishings, Kingstree, S.C.	1.2	1
Eastern Door & Panel Corp., Danville, Va.	1	N.R.
Eggers Industries, Two Rivers, Wis.	2	2
Fibreboard Corp., Sub. of Louisiana-Pacific, Standard, Calif.	120	65
Burney, Calif.	60	N.R.
Florida Plywoods Inc., Greenville, Fla.	12	9
Georgia-Pacific Corp., Atlanta, Ga.		
Savannah, Ga.	185	N.R.
Eugene, Ore.	200	N.R.
Hasty Plywood Co., Maxton, N.C.	N.R.	N.R.
Hayworth Roll & Panel Co., High Point, N.C.	6.3	5.5
Henry County Plywood, Ridgeway, Va.	4	2
Hoosier Panel Co. Inc., New Albany, Ind.	20	N.R.
Howell Plywood Corp., Dothan, Ala.	1	N.R.
Idaho Veneer Co., Post Falls, Idaho	11	4
Ingram Plywoods Inc., Thomasville, N.C.	N.R.	N.R.
IPP Inc., Memphis, Tenn.	N.R.	N.R.
Iron Wood Products Corp., Bessemer, Mich.	N.R.	N.R.
Jamestown Plywood Corp., Jamestown, N.Y.	8	7
Jasper Laminates, Jasper, Ind.	18	19
Jasper Wood Products Co., Jasper, Ind.	N.R.	N.R.
Jefferson Wood Working, Louisville, Ky.	N.R.	N.R.
Keller Products, Manchester, N.H.	N.R.	N.R.
Lea Lumber & Plywood Co., Windsor, N.C.	28	N.R.
Lenderink Inc., Belmont, Mich.		
Gillett, Wis.	2	1
Marion Plywood Corp., Marion, Wis.	6	4
Marsh Plywood Corp., Sub. of Marsh Furniture, Highpoint, S.C.		
Pamplico, S.C.	N.R.	N.R.
Masonite Corp., Chicago, Ill.		
Warren, Ark.	N.R.	N.R.
Statesville, N.C.	N.R.	N.R.
Watsontown, Pa.	N.R.	N.R.
Memphis Plywood Corp., Memphis, Tenn.	4	1.5
Mill City Plywood Co., Minneapolis, Minn.	5	3
Mt. Baker Plywood Inc., Bellingham, Wash.	2.8	2.7
Multi-Ply Corp., Danville, Va.	4.5	N.R.
New Linwood Inc., Gillett, Wis.	10	N.R.
Panoply Corp., Lexington, Tenn.	9	5
Paramount Plywood Products Inc., New Albany, Ind.	5	N.R.
Patat Plywood Corp., Rockmart, Ga.	13	10
Patrick Industries Inc., Elkhart, Ind.	N.R.	N.R.
Pavco Industries Inc., Pascagoula, Miss.	30	N.R.
Pluswood Inc., Oshkosh, Wis.	50	N.R.
Plycraft Inc., Lawrence, Mass.	N.R.	N.R.
Ply-Gem Manufacturing, New York, N.Y.		
Gloucester City, N.J.	N.R.	N.R.
Ply-Curves Inc., Grand Rapids, Mich.	3	1.5
Ply-Forms Inc., Bay City, Mich.	N.R.	N.R.
Quality Plywood Co. Inc., Waynesboro, Miss.	10	10
Rankin Bros. Co., Fayetteville, N.C.	5	N.R.
Rutland Plywood Corp., Rutland, Vt.	27.7	23.9
Southern Inc., Wilmington, N.C.	N.R.	N.R.
Southern Laminating Co., Memphis, Tenn.	6	4.8
Speltz Plywood Corp., Memphis, Tenn.	4	N.R.
Standard Plywoods Inc., Clinton, S.C.	30	N.R.
States Industries Inc., Eugene, Ore.	240	120
Statesville Plywood & Veneer Co., Statesville, N.C.	10	N.R.
Stilley Plywood Co. Inc., Conway, S.C.	15	N.R.
Taylor Veneer Co., A. R., Demopolis, Ala.	4	3
Thompson & Swaim Plywood Inc., Tuscaloosa, Ala.	N.R.	N.R.
Timber Products Co., Medford, Ore.	72	70
Tinsley Plywood Corp., Florence, S.C.	N.R.	N.R.
Tri-State Veneer & Plywood, Memphis, Tenn.	1.8	N.R.
Tyler Plywood Corp., Florence, S.C.	N.R.	N.R.
Union Camp Corp., Wayne, N.J.		
Chapman, Ala.	30	20
Vaughn Co., L., Warwick, R.I.	N.R.	N.R.
Warvel Products, Gillett, Wis.	N.R.	N.R.
Weber Veneer & Plywood, Shawano, Wis.	6	5
Weldon Veneer Co. Inc., Weldon, N.C.	8	N.R.
Weyerhaeuser Co., Tacoma, Wash.		
Hancock, Vt.	55	40
Whiteville Plywood Inc., Whiteville, N.C.	5	N.R.
Whittle Plywood Corp., Chatham, Va.	16	N.R.
Winnsboro Plywood Co., Winnsboro, S.C.	N.R.	N.R.
Wisconsin Laminates Inc., Pewaukee, Wis.	2.5	N.R.
Wisconsin Timber & Land, Mattoon, Wis.	3.6	N.R.

HARDWOOD PLYWOOD — CANADA

Canada Veneers Ltd., Pembroke, Ont.	12	N.R.
Canwood Lachute Ltd., Orillia, Ont.	5.2	6.4
Curvply Wood Products, Orono, Ont.	7	N.R.
Forestply Industries Inc., Kincheloe, Mich.		
Silvaplex Div., Gravenhurst, Ont.	12	N.R.
Kingswood Panels Inc., Fergus, Ont.	5.5	6
Les Placages, Tring-Jonction, Que.	39	N.R.
Levesque Plywood Ltd., Hearst, Ont.	55	52
MacMillan Bloedel Ltd., Vancouver, B.C.		
Nipigon, Ont.	135	N.R.
Newfoundland Hardwoods Ltd., Mount Pearl, Nfld.	4.5	N.R.
Normick Perron Inc., La Sarre, Que.	45	N.R.
Cochrane, Ont.	75	N.R.
St. Casimir Plywood Inc., Saint Casimir, Que.	15	N.R.
Temfor Inc., Ville Marie, Que.	15	N.R.
Vic Ply Inc., Montreal, Que.	20	N.R.
Weldwood of Canada Ltd., Vancouver, B.C.		
Surrey, B.C.	70	N.R.
Longlac, Ont.	40	38

N.R. = Not Reported.

**Million sq ft, basis as follows: structural panels, ⅜-in.; hardwood plywood, surface measure; particleboard, ¾-in.; hardboard, ⅛-in.; MDF, ¾-in.; and insulation board, ½-in.*

***Duplicate listings are included for companies which have mills both in the U.S. and Canada producing a given panel product.*

PARTICLEBOARD — U.S.

Company & Plants	Capacity*	1985 Est. Prod.
American Forest Products Co., San Francisco, Calif.		
Martell, Calif.	110	N.R.
Bohemia Inc., Eugene, Ore.	72	36
Boise Cascade Corp., Boise, Idaho		
La Grande, Ore.	181	181.9
Broyhill Furniture, Lenoir, N.C.	50	30
Ellingson Lumber Co., Baker, Ore.	20	8
Florida Plywoods Inc., Greenville, Fla.	10	6
Georgia-Pacific Corp., Atlanta, Ga.		
Vienna, Ga.	105	N.R.
Louisville, Miss.	75	N.R.
Taylorsville, Miss.	85	N.R.
Russellville, S.C.	125	126
Giles & Kendall Inc., Huntsville, Ala.	10	N.R.
Hambro Forest Products, Crescent City, Calif.	30	27
Jasper-American Mfg. Co., Henderson, Ky.	6	5
Kirby Forest Industries Inc., Houston, Texas		
Silsbee, Texas	74	66
Lane Co. Inc., The, Altavista, Va.	70	10.6
Louisiana-Pacific Corp., Portland, Ore.		
Arcata, Calif.	100	N.R.
Missoula, Mont.	98	100
Masonite Corp., Chicago, Ill.		
Stuart, Va.	50	N.R.
Nu-Woods Inc., Lenoir, N.C.	23.5	21.9
Pluswood Inc., Oshkosh, Wis.		
Pluswood Manufacturing Inc., Atikokan, Ont.	80	N.R.
Ponderosa Products, Albuquerque, N.M.	45	N.R.
Navajo, N.M.	40	N.R.
Potlatch Corp., San Francisco, Calif.		
Post Falls, Idaho	73	70
Publishers Paper, Lake Oswego, Ore.		
Philomath, Ore.	20.7	18.7
Sweet Home, Ore.	N.R.	N.R.
Rodman Industries Inc., St. Paul, Minn.		
Marinette, Wis.	22	21
Roseburg Lumber Co., Roseburg, Ore.		
Mills 1 & 2, Dillard, Ore.	310	300
Swain Industries, Evanston, Ind.	15	N.R.
Temple-Eastex Inc., Diboll, Texas	92	85
Monroeville, Ala.	100	99
Thomson, Ga.	106	105
Timber Products Co., Medford, Ore.	96	72
Union Camp Corp., Wayne, N.J.		
Franklin, Va.	85	84
U.S. Plywood Corp., Sub. of Champion International, Wilton, Conn.		
Gaylord, Mich.	200	190
Oxford, Miss.	180	150
South Boston, Va.	100	79
Vanply Inc., Many, La.	N.R.	N.R.
Weyerhaeuser Co., Tacoma, Wash.		
Adel, Ga.	75	56
Klamath Falls, Ore.	100	88
Springfield, Ore.	96	81
Marshfield, Wis.	66	62
Willamette Industries Inc., Portland, Ore.		
Lillie, La.	89	N.R.
Surepine Division, Ruston, La.	83	82.5
Duraflake Division, Albany, Ore.	170	N.R.
Korpine Division, Bend, Ore.	150	N.R.

PARTICLEBOARD — CANADA

Canpar Industries, Vancouver, B.C.		
Grand Forks, B.C.	36	25
Domtar Const. Matls., Montreal, Que.		
Huntsville, Ont.	45	N.R.
Flake Board Co. Ltd., Saint Stephen, N.B.	40	N.R.
Forex-Leroy Inc., Val D'Or, Que.	122	105.8
Levesque Plywood Ltd., Hearst, Ont.	50	43.3
MacLaren Industries Inc., James, Buckinghames, Que.		
Lac Des Iles, Que.	71	67.5
MacMillan Bloedel Ltd., Vancouver, B.C.	50	41.7
Northwest Panelboard, Sub. of Groot Logging Ltd., Smithers, B.C.	N.R.	N.R.
Panval Inc., Sayabec, Que.	116.7	112.5
Pluswood Inc., Oshkosh, Wis.		
Pluswood Manufacturing Inc., Atikokan, Ont.**	80	N.R.
Rexwood Products Ltd., New Liskeard, Ont.	35	30
Waferboard Corp. Ltd., Timmins, Ont.	36	N.R.

HARDBOARD — U.S. AND CANADA

Abitibi-Price Corp., Troy, Mich.		
Alpena, Mich.	549	549
Roaring River, N.C.	700	700
Canexel Hardboard Inc., Gatineau, Que.		
Chester, N.S.	310	N.R.
Canfor Ltd., New Westminster, B.C.		
Canadian Forest Products Ltd., New Westminster, B.C.	210	190
Celotex Corp, The, Tampa, Fla.		
Paris, Tenn.	252	N.R.
Evanite Hardboard Inc., Corvallis, Ore.	138	125
Forest Fiber Products, Forest Grove, Ore.	120	110
Georgia-Pacific Corp., Atlanta, Ga.		
Monticello, Ga.	300	N.R.
Conway, N.C.	200	175
Whiteville, N.C.	160	N.R.
Jarratt, Va.	210	196
Louisiana-Pacific Corp., Portland, Ore.		
Oroville, Calif.	170	N.R.
Masonite Corp., Chicago, Ill.		
Ukiah, Calif.	580	N.R.
Laurel, Miss.	N.R.	N.R.
Superior Fiber Products Inc., Superior, Wis.	145	140.4
Superwood Corp., Duluth, Minn.	350	320
North Little Rock, Ark.	175	124
Bemidji, Minn.	105	87
Phillips, Wis.	96	78.2
Temple-Eastex Inc., Diboll, Texas	280	256
USG Industries Inc., Chicago, Ill.		
Pilot Rock, Ore.	50	N.R.
Danville, Va.	240	N.R.
U.S. Plywood Corp., Sub. of Champion International, Wilton, Conn.		
Lebanon, Ore.	N.R.	N.R.
Catawba, S.C.	290	260
Weyerhaeuser Co., Tacoma, Wash.		
Klamath Falls, Ore.	195	N.R.

N.R. = Not Reported.

**Million sq ft, basis as follows: structural panels, 3/8-in.; hardwood plywood, surface measure; particleboard, 3/4-in.; hardboard, 1/8-in.; MDF, 3/4-in.; and insulation board, 1/2-in.*

***Duplicate listings are included for companies which have mills both in the U.S. and Canada producing a given panel product.*

1986 Panel review

WAFERBOARD — U.S.

Company & Plants	Capacity*	1985 Est. Prod.
Blandin Wood Products, Sub. of Blandin Paper Co., Grand Rapids, Minn.	275	275
Georgia-Pacific Corp., Atlanta, Ga.		
Woodland, Maine	156	130
Duckhill, Miss.	246	N.R.
Dudley, N.C.	120	120
Glade Spring, Va.	200	N.R.
Skippers, Va.	246	N.R.
Louisiana-Pacific Corp., Portland, Ore.		
Kremmling, Colo.	90	91
Montrose, Colo.	90	78
Athol, Idaho	90	87
Urania, La.	120	N.R.
Houlton, Mass.	160	164
New Limerick, Maine	N.R.	N.R.
Two Harbors, Minn.	84	30
Corrigan, Texas	140	N.R.
Dungannon, Va.	90	N.R.
Hayward, Wis.	325	322
Huber Corp., J. M., Timber & Minerals Div., Easton, Maine	128	140
Northwood Panelboard Co., Sub. of Northwood Pulp & Timber Ltd., Solway, Minn.	258.3	263.3
Oregon Strandboard Co., Brownsville, Ore.	24	16
Potlatch Corp., San Francisco, Calif.		
Bemidji, Minn.	190	179.6
Cook, Minn.	190	170
Temple-Eastex Inc., Diboll, Texas		
Claremont, N.H.	80	68
Weyerhaeuser Co., Tacoma, Wash.		
Grayling, Mich.	335	325
Elkin, N.C.	N.R.	N.R.

WAFERBOARD — CANADA

Atlantic Waferboard Corp., Chatham, N.B.	N.R.	N.R.
Grant Waferboard, Englehart, Ont.	198	N.R.
Great Lakes Forest Products Ltd., Thunder Bay, Ont.	140	120
MacMillan Bloedel Ltd., Vancouver, B.C.		
Thunder Bay, Ont.	167	141.7
Hudson Bay, Sask.	200	N.R.
Normick Perron Inc., La Sarre, Que.	125	N.R.
Panneaux Malette-Waferboard, Sub. of Waferboard Corp. Ltd., Grand'mere Que.		
Malette Waferboard, Saint Georges, Que.	158	158
Pelican Spruce Mills Ltd., Edmonton, Alta.		
Edson, Alta.	250	240
Panofor Inc., Sub. of Forex-Leroy Inc.,		
Val D'Or, Que.	166.1	166.1
Waferboard Corp. Ltd., Timmins, Ont.	83	N.R.
Weldwood of Canada Ltd., Vancouver, B.C.		
Slave Lake, Alta.	130	91
Longlac, Ont.	140	139

MEDIUM-DENSITY FIBERBOARD — U.S.

Bassett Industries, Bassett, Va.	N.R.	N.R.
Bohemia Inc., Eugene, Ore.		
Rocklin, Calif.	80	68
Celotex Corp., The, Sub. of Jim Walter Corp., Tampa, Fla.		
Marion, S.C.	70	N.R.
Sellers, S.C.	57	57
Georgia-Pacific Corp., Atlanta, Ga.		
Holly Hill, S.C.	82	N.R.
Louisiana-Pacific Corp., Portland, Ore.		
Clayton, Ala.	65	65
Eufala, Ala.	70	N.R.
Oroville, Calif.	50	N.R.
Newberry, Mich.	52.5	5
Masonite Corp., Chicago, Ill.		
Spring Hope, N.C.	70	60
Medford Corp., Medford, Ore.	88	91
Montaña De Fibra, Las Vegas, N.M.	84	42
Plum Creek Timber Co. Inc., Sub. of Burlington Northern, Seattle, Wash.		
Columbia Falls, Mont.	79	79
Weyerhaeuser Co., Tacoma, Wash.		
Moncure, N.C.	70	53
Craig, Okla.	75	61
Willamette Industries Inc., Portland, Ore.		
Malvern, Ark.	50	N.R.

INSULATION BOARD — U.S. AND CANADA

Boise Cascade Corp., Boise, Idaho		
International Falls, Mont.	200	N.R.
Building Products of Canada, Pont-Rouge, Que.	170	N.R.
Celotex Corp., The, Tampa, Fla.		
Marrero, La.	N.R.	N.R.
Domtar Construction Materials, Montreal, Que.		
Donnacona, Que.	140	135
Georgia-Pacific Corp., Atlanta, Ga.		
Jarratt, Va.	250	250
Homasote Co., Trenton, N.J.	168	94
Huebert Fiberboard Inc., Boonville, Mo.	55	54
Nordfibre Co., North Bay, Ont.	130	N.R.
Owens Corning Fiberglass, Toledo, Ohio		
Meridian, Miss.	220	N.R.
Temple-Eastex Inc., Diboll, Texas	150	145
USG Industries Inc., Chicago, Ill.		
Lisbon Falls, Maine	130	N.R
Pilot Rock, Ore.	125	N.R.

N.R. = Not Reported.

**Million sq ft, basis as follows: structural panels, 3/8-in.; hardwood plywood, surface measure; particleboard, 3/4-in.; hardboard, 1/8-in.; MDF, 3/4-in.; and insulation board, 1/2-in.*

***Duplicate listings are included for companies which have mills both in the U.S. and Canada producing a given panel product.*